DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-026400
Date Inspected: 26-Sep-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Job Site

CWI Name: John Pagliero and Steve Mc Connell

CWI Present:	☑ Yes	☐ No						
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A	
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☐ No	☑ N/A	
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component: SAS Tower

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base Elevation Electro Slag Welding (ESW) T-joint E-044 location 'B', QA randomly ABF welder Rory Hogan perform 3G SMAW first time welding repair (R1) on the Ultrasonic Testing (UT) detected defect on the internal of the vertical weld of the ESW. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repair Rev. 2. The boat shape repair excavation located at Y=8975mm to Y=9135mm was excavated to dimensions of 160mm long x 40mm wide x 42mm deep. The excavation was previously tested using Magnetic Particle Testing (MT) by ABF QC John Pagliero and this QA with positive result. The repair excavation and the adjacent base metal was preheated and maintained to more than 204°C (400°F) using Miller Proheat Induction Heating System with the heater blankets placed at the other side of the repair. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 135 amperes on a 1/8" diameter E7018H4R electrode. At the end of the shift, repair welding was still continuing and the welder has held the 400°F preheat by programming the Miller Proheat 35 Induction Heating System to hold the preheat of 400°F for three hours and cool down at 150°F per hour as recommended by ABF.

At Tower Base Elevation Electro Slag Welding (ESW) T-joint W-044 location 'D' (north side), QA randomly ABF welder Jeremy Dolman continuing to perform 3G SMAW cover welding repair due to excessive grinding on the visually noted overlap. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal

Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repair Rev. 2. The excavation was previously tested using Magnetic Particle Testing (MT) by ABF QC John Pagliero and randomly verified by this QA with positive result. The repair excavation located at Y=3000mm and the adjacent base metal were preheated to more than 300°F using the propylene gas torch. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 120 amperes on a 1/8" diameter E7018H4R electrode. Dimension of the excavation was 200mm long x 25mm wide x 20mm deep. Before the end of the shift, repair welding was completed and the welder has continued carbon arc gouging the remnants of the strong back.

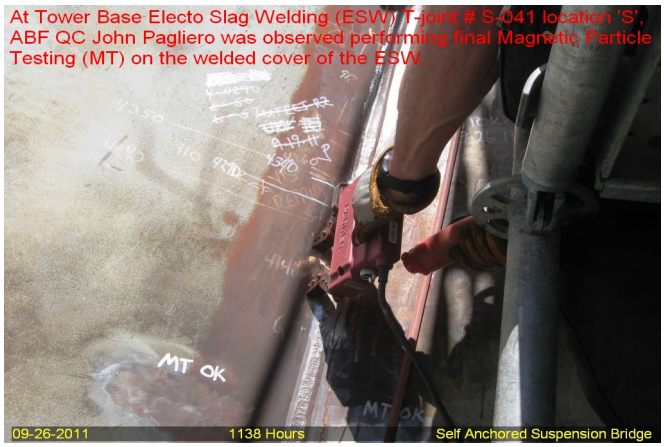
At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the ESW welding of four (4) various locations. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

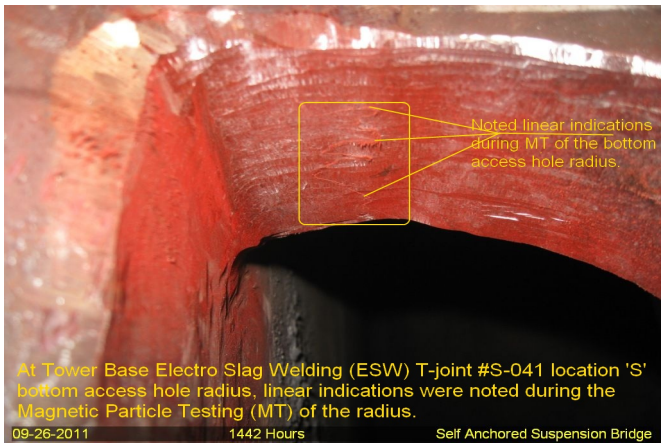
ESW Location	Remarks
1. N-041 location 'N' (outside)	Deemed acceptable.
2. W-041 location 'W' (outside)	Deemed acceptable.
3. E-041 location 'R' (outside)	Deemed acceptable.
4. S-041 location 'S' (outside)	Deemed acceptable.

Other welding related activities noted during the shift include the following;

1. ESW location 'S' (outside) – smooth grinding of the cut and gouged radius of the sump block removal was completed and tested with Magnetic Particle Testing (MT). Linear indications were noted during the test as shown on the photograph.

2. ESW location 'J' (inside inner east diaphragm) – grinding still continues after ABF QC VT/MT on the ESW weld cover.





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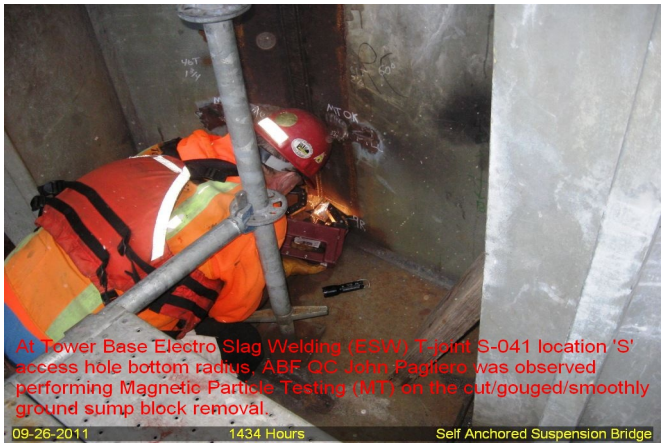

Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer